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SOURCE

Books as indicated.

## SOME DATA ON SOVIET RAILROAD CAR PRODUCTION

The production of railroad cars in the Soviet Union has been increasing since 1925 - 1926.

Increases were made in the production of cars during the First Five-Year Plan. During the same period, Soviet railroad car producing plants began to change over to the production of four-axle cars. The main types of four-axle cars produced during the First Five-Year Plan were boxcars, gondolas, hoppers, tank cars, and refrigerator cars.

During the Third Five-Year Plan, the production of 225,000 four-axle freight cars and 15,000 four-axle passenger cars was contemplated. By the beginning of this plan, the carrying capacity of cars produced in the Soviet Union had reached the capacity of cars produced in the US and considerably surpassed the capacity of cars produced in the countries of Western Europe. The latter produced cars with a carrying capacity of 20-25 tons.

In order to make a 10- to 25-percent reduction in the over-all weight of a car, it was proposed that after 1941 both passenger and freight cars be built from low-alloy steel. Between 1940 and 1941, production was started of cars equipped with compressed-air devices and with mechanical cooling systems.

By this time, modern technology was being introduced into car production. The smelting of steel in electric furnaces, casting in metal forms, flaskless casting, and mechanization of productive operations through the use of conveyer belts were all widely expanded. Drop forging began to replace free forging, heavy parts were forged on hydraulic presses, transport was mechanized, and parts were heated in conveyer furnaces.

The most modern methods of casting, axle forging, press forging, and producing leaf and coil springs were initiated at the Ural Car Building Plant, which was built and equipped according to the latest technology. (1)

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Enormous tasks of capital reconditioning and further expansion of all branches of railroad transport faced the Soviet Union after World War II.

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In addition to reconditioning the cars which required repair, 472,000 freight cars (expressed in two-axle units) and 6,000 passenger cars were to be added to the rolling stock.(2) To achieve these results quickly, the cars were to be built by the assembly line method, which the use of highly productive automatic machines, automatic welding, high-frequency heat treating, casting parts in metal chills, machine molding, and other modern methods was to make possible.(1)

The increase in the production of freight cars was accomplished by delaying the building of more modern and greater capacity four-axle cars.

The principal types of cars which were to be built in the Fourth Five-Year Plan were to be 50- to 60-ton boxcars, gondolas, flatcars, tank cars, and 30-ton refrigerator cars.

A majority of the freight cars being built in 1950 were equipped with modern automatic brakes, automatic coupling, standard axle wheel pairs made up of rolled wheels without tires and seams, and cast-type trucks in which the spring rigging was made up of coil and leaf springs or wedge-type shock absorbers.

The passenger cars being built in 1950 were exclusively four-axle metal cars 23.6 meters long. The trucks on these cars were designed for smoother performance.

By the end of 1950, 75 percent of the freight cars were to be equipped with automatic couping, and 93 percent were to be equipped with automatic air brakes.

The capacity of car repair facilities increased considerably with the reconstruction of war-damaged car repair plants. Both new repair plants and plants producing spare parts were under construction in 1950. Provisions were made in the Fourth Five-Year Plan for the construction of repair plants where capital repairs could be made on automatic brakes, shops in which car wheels could be repaired, special shops for repairing plant equipment, shops for repairing automatic coupling, and stations for washing out tank cars. The Fourth Five-Year Plan also provided for expanding automatic control and mechanized technical inspection points.(2)

## SOURCES

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- Organizatsiya Vagonnogo Khozyaystva (Organization of Railroad Car Management) by N. Z. Krivoruchko, Transzheldorizdat, Moscow, 1950

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